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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,505	11/20/2003	Ronald D. McCallister	1826-310CIPRI	1245
7590 07/11/2006			EXAMINER	
Lowell W Gresham Meschkow & Gresham PLC 5727 North Seventh Street Suite 409 Phoenix, AZ 85014			CORRIELUS, JEAN B	
			ART UNIT	PAPER NUMBER
			2611	
DATE MAILED: 07/11/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/718,505

Applicant(s)

MCCALLISTER ET AL.

Examiner

Jean B Corrielus

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-11 and 13-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-11 and 13-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-11, 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over May et al in view of Dent et al US Patent No. 5,262,734.

As per claim 2, May teaches a transmitter circuit see page 2474, col. 1, line 4 comprising inherently a modulated signal generator for generating a first modulated signal  $s(t)$  (note that in order to generate the modulated signal  $s(t)$  a generator has to be used) conveying to be communicated data having a first bandwidth and having a first peak-to-average amplitude ratio see page 2474, col. 2, lines 2-8 and page 2475, col. 1, lines 36-38; generating a constrained bandwidth error signal  $K(t)$  in response to said first modulated signal  $s(t)$  (note that in order to generate the error signal  $K(t)$ , a constrained envelope generator has to be used, hence such an element is inherent in May et al) see page 2475, col. 2, line 1; combining said error signal  $K(t)$  with the modulated signal  $s(t)$  see page 2475, col. 2, last three equations (note that in order to combine the signal a combining circuit has to be used, hence a combining circuit is inherent in May) to produce a second modulated signal conveying said to be communicated data having said first BW and said first PAR see page 2475, col. 1 section B- page 2476, col. 1, first full paragraph. In addition, as noted in the inventor

Art Unit: 2611

submission filed on 7/5/05, a delay coupled between said modulated signal generator and said combining circuit to delay said first modulated signal into synchronism with said constrained bandwidth error signal, is inherent. However, May et al does not teach the inclusion of a linearizer or linearizing limitations (i. e. May does not teach the limitation of predistorting the modulated signal prior to linear amplification). In the same field of endeavor, Dent et al discloses an amplification system comprising a digital predistortion circuit 28 (digital linearizer) configured to predistort a modulated signal generated by DSP modulator 30 into a predistorted signal see fig. 1; a digital to analog converter 22 coupled between the predistortion circuit 28 and an RF amplifying circuit 10 coupled the D/A converter 22 and configured to generate an RF broadcast signal from the predistorted signal. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in May et al in order to compensate for intermodulation distortion at the output of the linear amplifier see col. 2, lines 4-16.

As per claim 3, May teaches that the error signal exhibits a BW equal to or less than said first BW see for instance fig. 3 and page 2476 bottom of col. 2.

As per claim 4, peaking unit intervals inherently occur when said first modulation signal exhibits magnitudes greater than a threshold; said constrained bandwidth error signal includes error burst for said peaking unit intervals, wherein each error burst spreads energy over a plurality of unit intervals and exhibits a peak in one unit interval said delay element inherently delays said first modulated signal so that error burst peaks substantially temporally coincide with said peaking unit intervals. See fig. 2.

As per claim 5, said error burst peaks exhibit amplitudes which are responsive to amounts by which magnitudes of said first modulated signal exceeds said threshold

As per claim 6, at a page 2474 col. 2, section A-page 2475, line 1 May teaches transmitting the signals simultaneously using a plurality of codes. It would have been obvious to one skill in the art to implement the generator as a CDMA modulator so as to be compatible with system(s) that uses CDMA technology.

As per claim 7, it would have been obvious to one skill in the art to incorporate a Nyquist filter in said CDMA modulator and the motivation to do so would have been the same as provided with respect to claim 6.

As per claim 8, note that in order to generate the error signal  $K(t)$ , a pulse generator has to be used. Hence, a pulse generator is inherently provided by May note the error signal is filtered using a filter see page 2475, col. 1, section B, lines 13-15.

As per claim 9, a pulse is generated when the modulated signal exhibits a magnitude greater than a threshold see fig. 2.

As per claim 10 said pulse exhibits an amplitude which is responsive to a value by which said first modulated signal exhibits said magnitude greater than said threshold see fig. 2 and page 2475, col. 2, last three equations.

As per claim 11, see claim 1.

As per claim 13, see claim 3.

As per claim 14, see claim 1.

As per claim 15, see claim 4.

As per claim 16, see claim 5.

As per claim 17, see claim 6.

As per claim 18, see claim 2.

As per claim 19, see claim 6.

As per claim 20, see claim 4.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1, 3, 6-13 and 17 have been considered but are moot in view of the new ground(s) of rejection.

In addition, applicant alleged that May does not teach how to delay "the input signal" and how to time align the scaled band limited pulse shape "so that the pulse peak and signal peak are time coincident" however it is noted that the inventor submission clearly states the opposite. In addition, it is the applicant's position that the alleged "delay in May" would be inherent. However, applicant did not provide any evidence to that effect. It is further alleged that one skill in the art would not be able to enable the delay in May without undue experimentation. However, applicant did not provide any evidence to that effect. It is therefore the examiner's position that the inventor is the better expert in the field of his own invention. A delay according to the inventor is inherent in May reference and that one skill in the art would be able to implement such a delay without undue experimentation. Applicant's further argues that the inventor's submission is an unsworn opinion. However, the examiner is not aware of any requirement that the inventor has to submit a sworn opinion.

### ***Response to Amendment***

4. The Declaration under 37 CFR 1.132 filed 5/18/06 is insufficient to overcome the rejection of claims 2-11, 13-20 based upon the inventor's submission filed on 7/6/05 as set forth in the last Office action because: the affidavit only argues that the inventor submission does not flow from the teaching of the May reference. The affidavit, however does not provide any evidence(s), if it exists, to that effect. It is therefore the examiner's position that the inventor is the better expert in the field of his own invention and that the affidavit is insufficient to overcome the inventor's submission.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2611

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Maxi-Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jean B. Corrielus  
Primary Examiner  
Art Unit 2611

7-7-06